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Week in Review: 12/23/02 -12/29/02

Ron Moore – FNAL

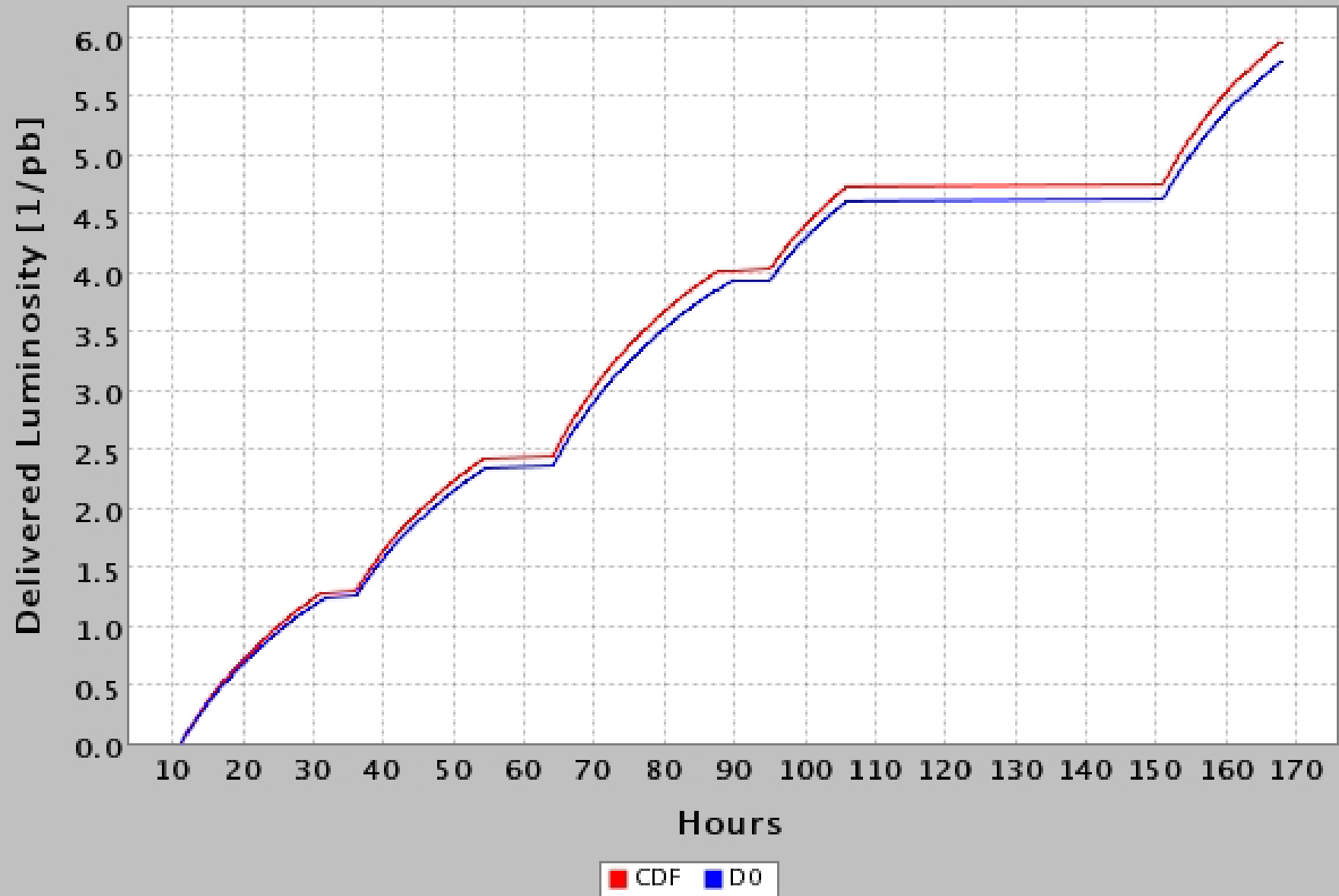
- Store Summary (Stack & store week)
- Loss of Store #2111
- Recycler pbar shots
- Schedule for Week



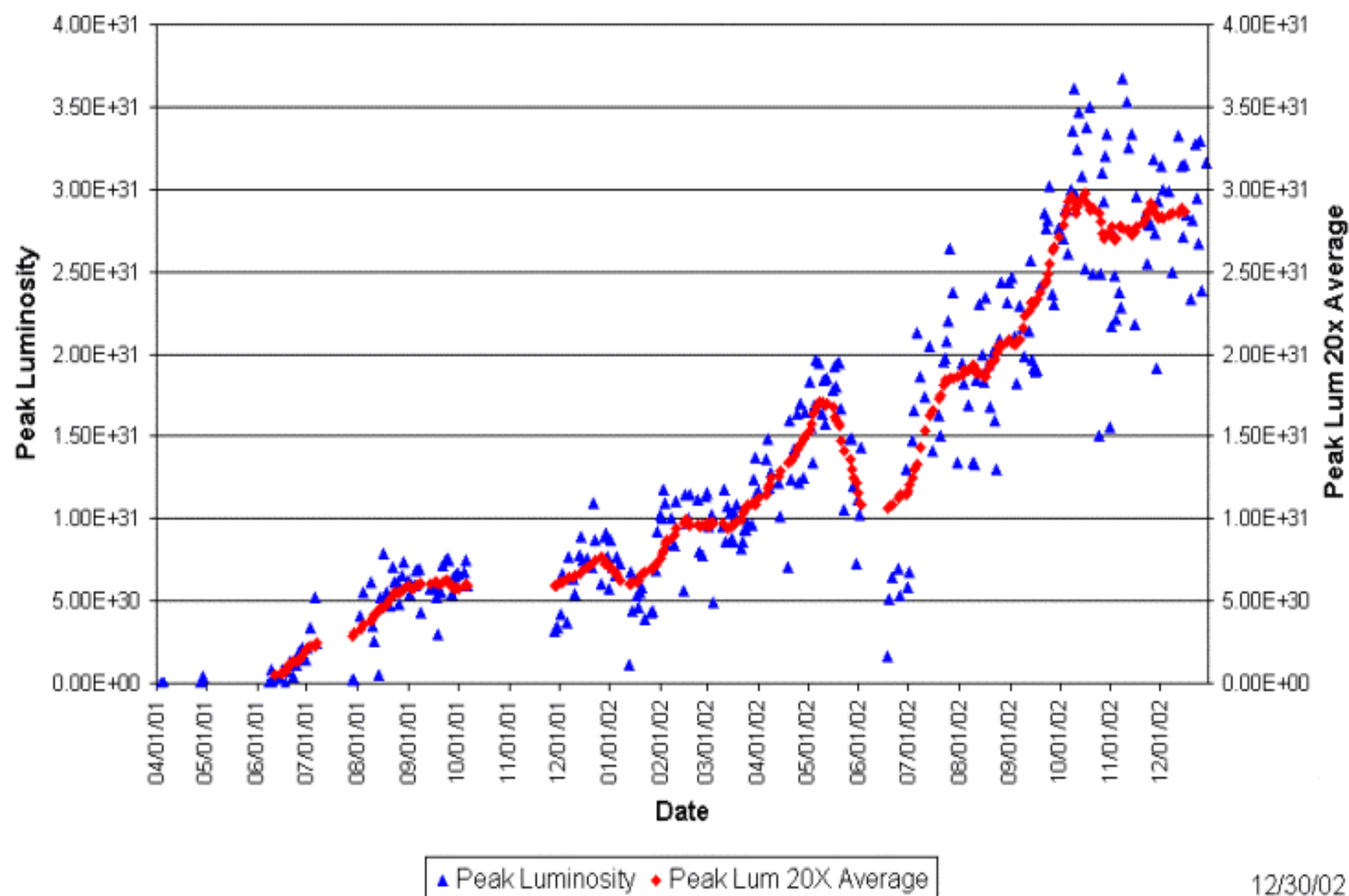
Store Summary

Store	Initial Lumi	Deliv'd Lumi	Termination	Comments
2097	29.5	1299	Intentional	Horz and vert dampers ON @ 150 GeV; longitudinal damper OFF
2099	26.1	1147	Intentional	Lost 1 pbar transfer in A1 line
2103	32.9	1599	Intentional	End-of-store studies; aborted with only 4 proton kickers
2105	23.7	712	Unintentional	PAK5 improperly fired when expert probing power supply test points
2113	31.6	1238	Intentional	F48 quench on abort – all 5 proton kickers fired a tad too soon?
2114	30.7	> 800	ongoing	

Tevatron Delivered Luminosity: Dec-23-2002 to Dec-30-2002

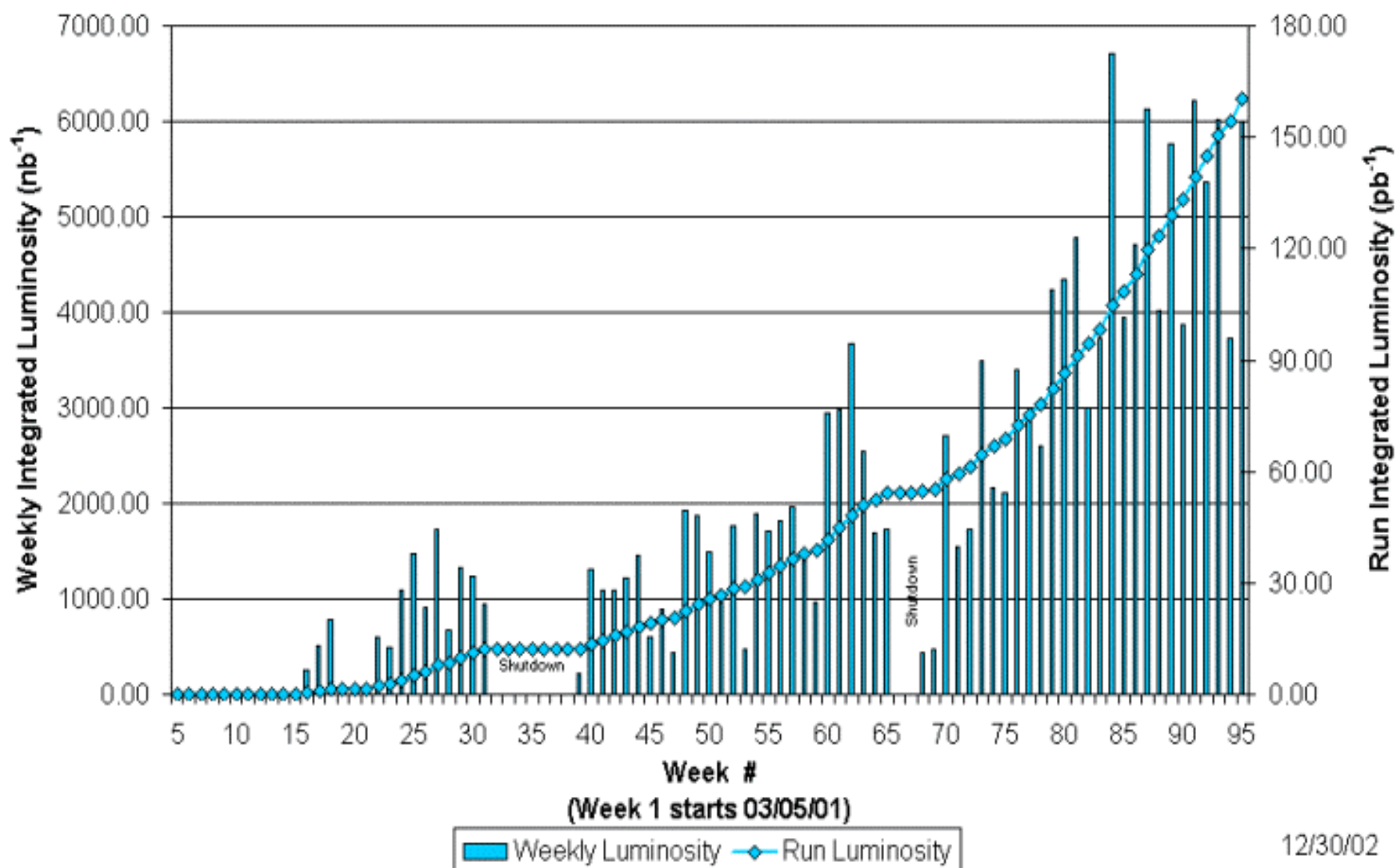


Collider Run IIA Peak Luminosity



12/30/02

Collider Run IIA Integrated Luminosity



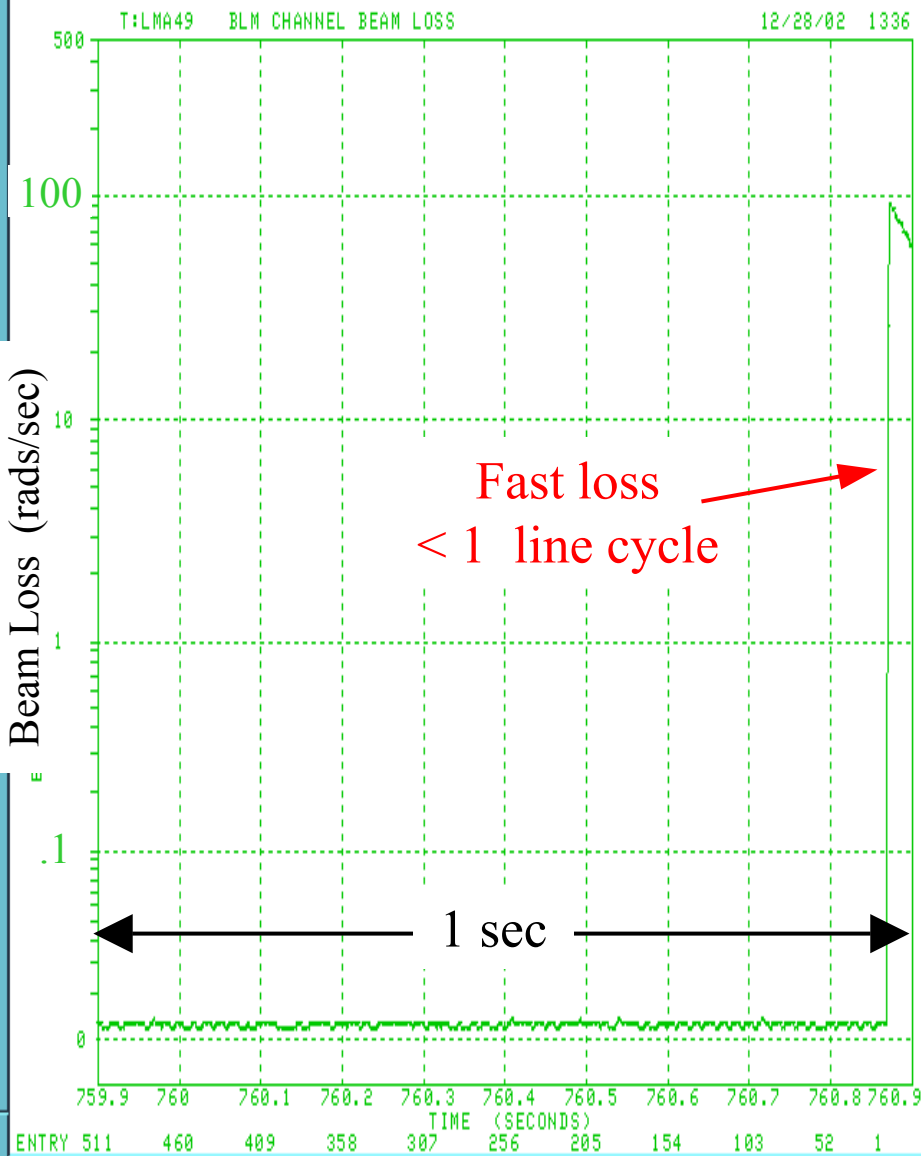
12/30/02

- Lost during scraping – very fast loss
 - 12 house (out of 24) quench + low beta quads
 - Lost 25% of helium inventory \approx \$22K
 - Cryo vacuum problems at E2 delayed recovery
 - N kautzky replaced, tightened clamps on He kautzky
 - We don't understand why we lost store.
 - Checked collimators, RF, separators, injection lambertson, kickers, earthquakes
 - Fast loss suggests kicker misfire. Which one and how?
 - Not abort kickers, F17 proton injection kicker.
 - E48 pbar kicker? No evidence it did or did not misfire.
 - Tev turn-on OK, have had 2 good stores since then
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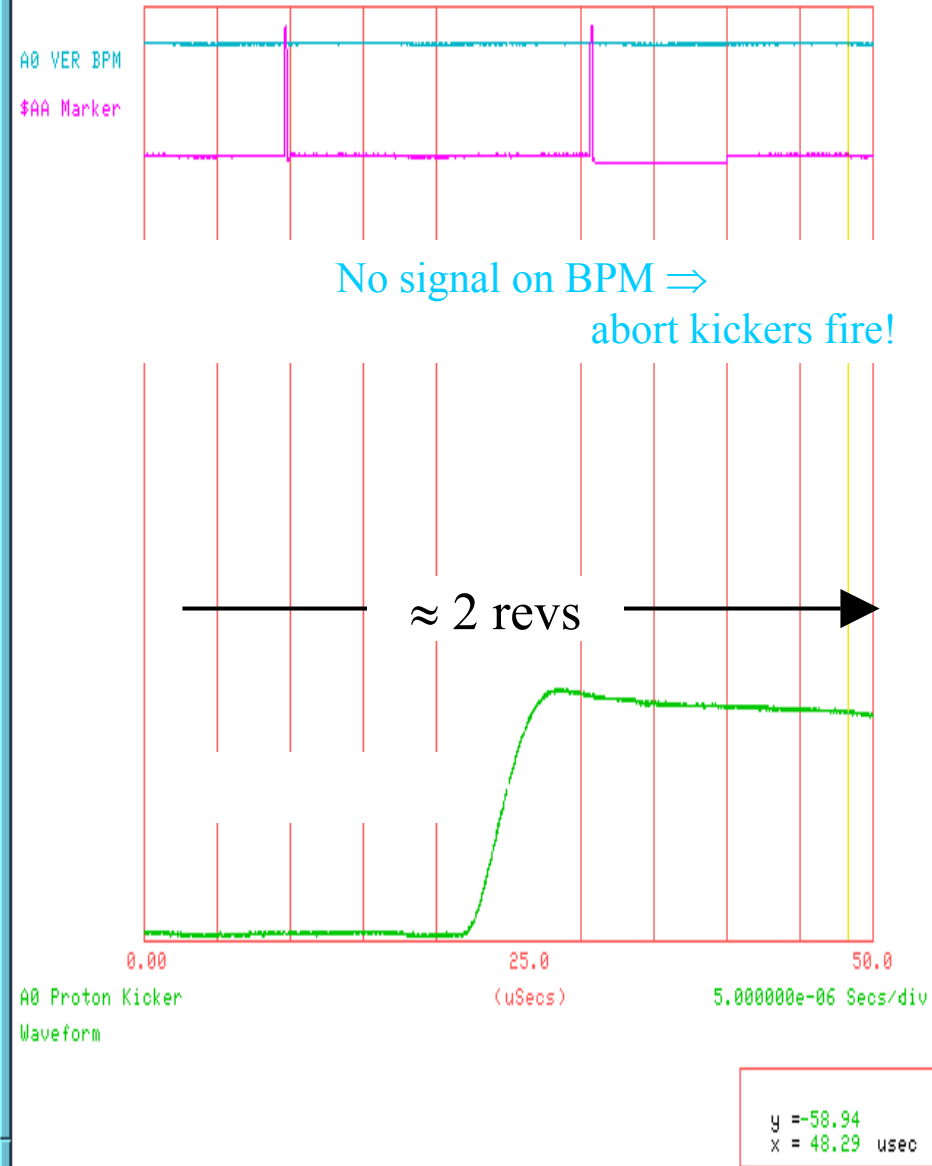
- Pbar lifetime @ 150 GeV “OK” – lose 3-6%
- Pbar efficiency up the ramp ~20%
 - 8-9% is typically “good”
 - Have been making minor adjustments shot-to-shot
 - Smoothed vertical orbit last week – little improvement
 - Focus during dedicated studies this week
- Transverse dampers ON at 150 GeV
- Longitudinal dampers still OFF
 - Maybe put in this week...

Loss of Store #2111

A49 Beam Loss Monitor



Scope





E27 He kautzky after
12 house quench

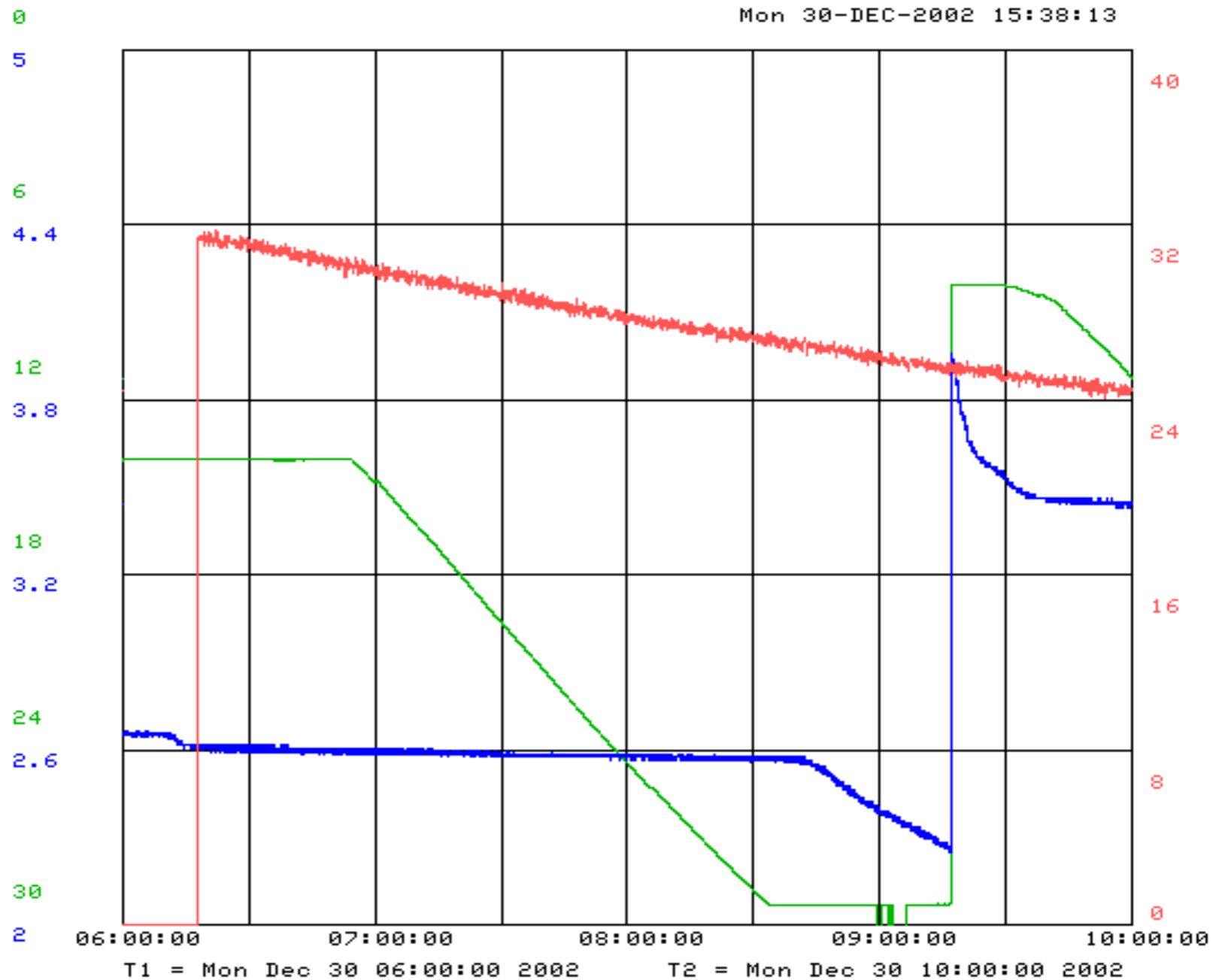
- 5 shots since last Monday
 - Total 117.4 E10 pbars shot from Accumulator
 - 77.5 E10 pbars injected into Recycler
- Achieved 80% Acc \Rightarrow MI \Rightarrow Recycler efficiency
 - Up from 63% earlier
 - Better RF matching between Acc and MI
 - Acc \Rightarrow MI oscillations now < 1 mm in both planes
- Will continue these shots
 - After HEP store starts, stack to 30 E10 or for 2 hours
 - Stacking for Tev no later than 3 hours after store start

Mon 30-DEC-2002 15:38:13


A:IBEAM
.E_864 mA

R:IBEAM
.E_864 E11

C:BOILUM
.CDF E30



Weekly Schedule

Update 12/30/02 2:11 PM	MONDAY 12/30/02	TUESDAY 12/31/02	WEDNESDAY 1/1/03	THURSDAY 1/2/03	FRIDAY 1/3/03	SATURDAY 1/4/03	SUNDAY 1/5/03
Owls 0000 to 0800	Stack and store	Stack and store		<u>Tev</u> Store till 0600 0600 eos studies -pbar tune scan <u>Pbar</u> -stack till 0600 -stacking studies	<u>Tev</u> Fix pbar losses -Shot set up	Stack and store	Stack and store 
DAYS 0800 to 1600	Stack and store	Stack and store	Stack and store Recycler shot	<u>Tev</u> -Diff orbit w/automated scans -Ping the beam TET -Ramp tunes on the ramp <u>Pbar</u> -D-A studies -Cycle time dependency	Stack and store	Stack and store	Stack and store
EVES 1600 to 2400	Stack and store	Stack and store	Tev store <u>Pbar</u> -rev P -trim calibration	<u>Tev</u> -fix the Pbar loss <u>Pbar</u> -Stack -ap2 reverse pbars	Stack and store	Stack and store	Stack and store

Schedule can be found at <http://www-bd.fnal.gov/operations/schedules.html>

- Stack & Store Week: $\approx 6 \text{ pb}^{-1}$
- Pbar loss up Tevatron ramp still biggest problem
- Loss of store #2111 still not understood
- Continued Recycler pbar shots
- 2.5-3 shifts of dedicated studies this week
 - Try to reduce pbar losses up ramp
- Next week: 1 shift shutdown + 5 shifts of studies